



# MacBook Pro 15" Unibody 2.53 GHz Mid 2009 Front Display Glass Replacement

Replacing the front display glass.

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## INTRODUCTION

Use this guide to replace a broken front display glass panel. Removal of the front display glass is required to access the LCD. Although it is not technically necessary to remove the display to access the front display glass, it greatly simplifies the task. This guide is not applicable for anti-glare displays.



### TOOLS:

- [P6 Pentalobe Screwdriver 2009 MacBook Pro Battery](#) (1)
  - [Heat Gun](#) (1)
  - [Heavy-Duty Suction Cups \(Pair\)](#) (1)
  - [Phillips #00 Screwdriver](#) (1)
  - [iFixit Opening Tools](#) (1)
  - [Spudger](#) (1)
  - [T6 Torx Screwdriver](#) (1)
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## Step 1 — Lower Case



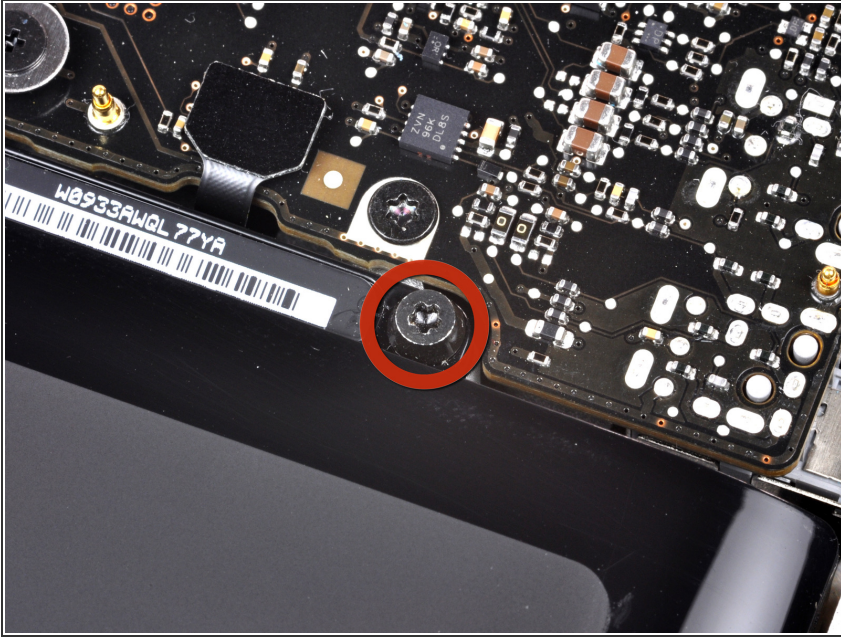
- Remove the following ten screws securing the lower case to the upper case:
  - Seven 3 mm Phillips screws.
  - Three 13.5 mm Phillips screws.

## Step 2



- Using both hands, lift the lower case near the vent to pop it off two clips securing it to the upper case.
- Remove the lower case and set it aside.

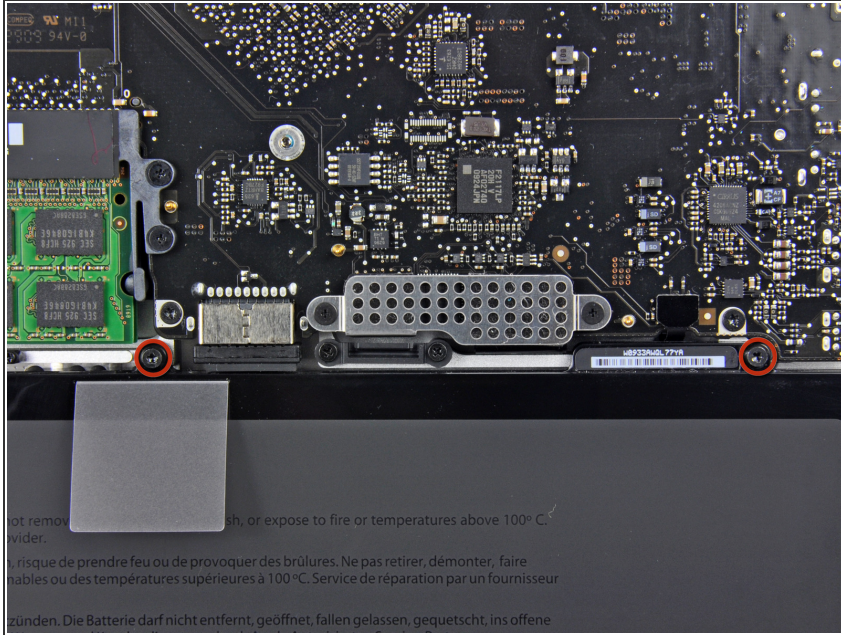
## Step 3 — Battery



- Three Pentolobe screws secure the battery to the upper case. They can be removed with [this special driver](#).
- ⓘ If you don't have a Pentolobe driver, a 1.5 mm flathead screwdriver can be used in a pinch. Be sure the head of your flathead screwdriver fits snugly across two of the five "points" of the screw head before trying to break the screw free, as a loose fit will easily strip the screw head.
- ⓘ If the head of your screwdriver fits too loosely, find a bigger bit and file it down until it fits snugly before proceeding.
- ⓘ You do not necessarily have to follow steps 3-7 to remove the battery in order to replace the hard drive. However, it is recommended to remove all power sources from electronics before working on them.



## Step 4



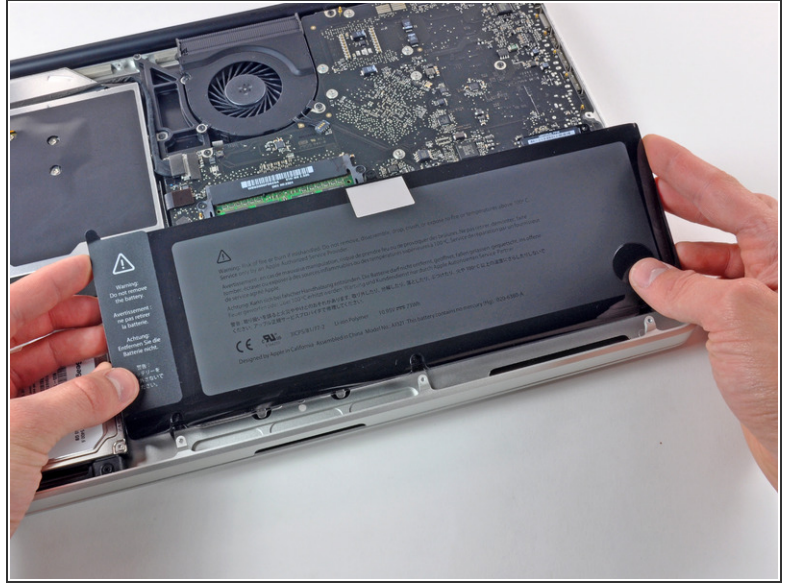
- Remove the two exposed five-point Pentalobe screws along the top edge of the battery.

## Step 5



- Use the tip of a spudger to bend back the finger of the "Warning: Do not remove the battery" sticker while you remove the five-point Pentalobe screw hidden underneath.

## Step 6



- Lift the battery by its plastic pull tab and slide it away from the long edge of the upper case.

⚠ Do not try to completely remove the battery just yet.

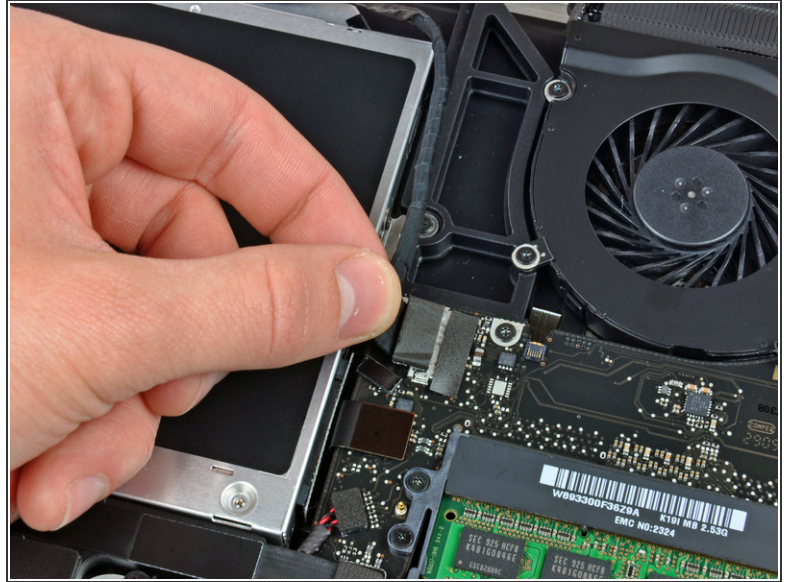
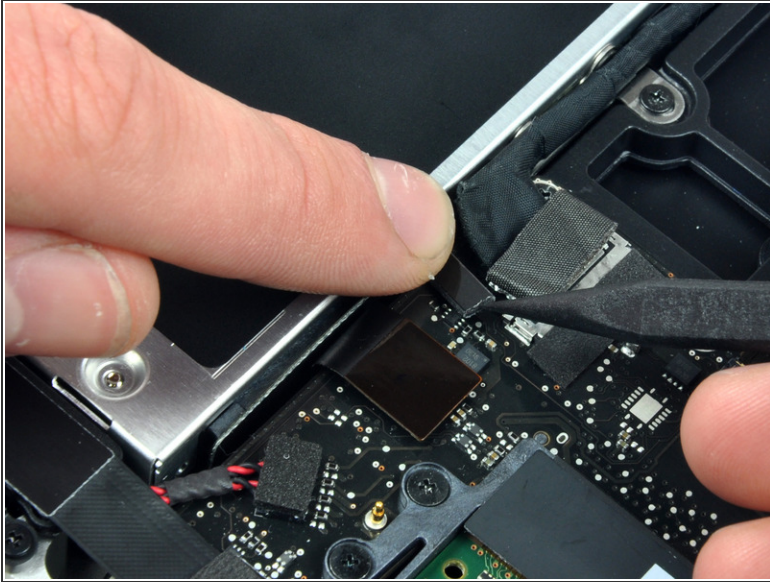
## Step 7





- Tilt the battery back enough to access the battery cable connector.
- Pull the battery cable connector away from its socket on the logic board and remove the battery from the upper case.



## Step 8 — Display Assembly



-  Apple sticks a small strip of clear plastic with adhesive applied to one side to the logic board behind the camera cable connector to keep it in its socket. When moving it out of the way, be sure not to break any surface-mount components off the logic board.
- Hold the end of the cable retainer down with one finger while you use the tip of a spudger to slightly lift the other end and rotate it away from the camera cable connector.
  - Pull the camera cable away from its socket on the logic board.
-  Pull the connector parallel to the face of the logic board, not straight up.

## Step 9



- Peel the camera cable off the adhesive securing it to the optical drive.



## Step 10



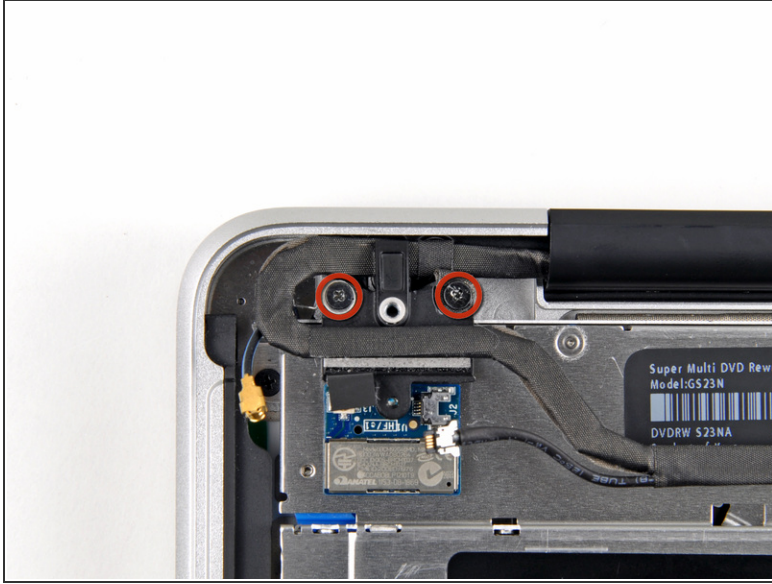
**i** This step is only required if you have an anti-glare display. If you have a glossy display, skip to step 12.

- Disconnect the Bluetooth cable by pulling the male end straight away from its socket.

**!** Pull the connector parallel to the face of the logic board, not straight up.

- Use the flat end of a spudger to pry the Bluetooth antenna cable from its socket on the board.

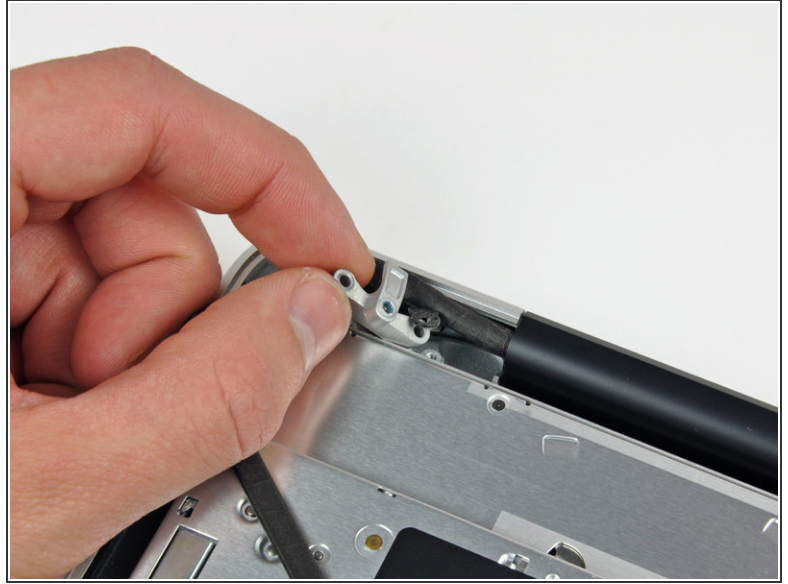
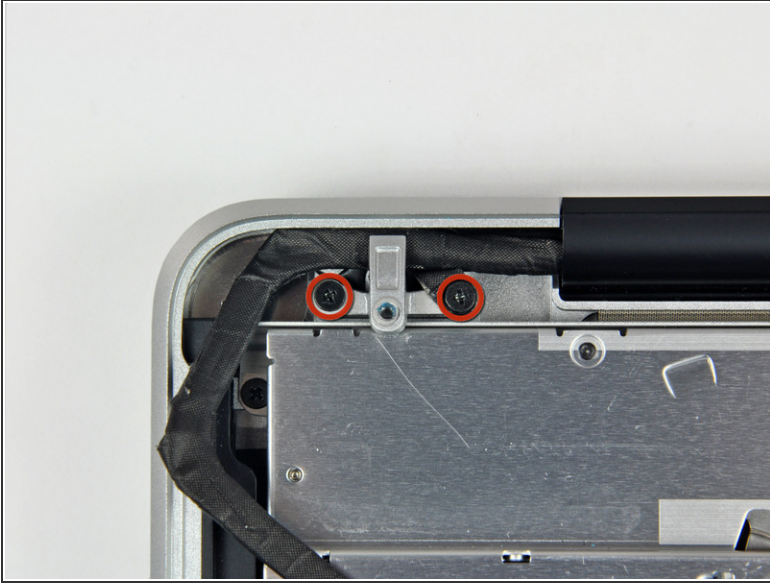
## Step 11



**i** This step is only required if you have an anti-glare display.

- Remove the two 8 mm Phillips screws securing the Bluetooth/camera cable retainer to the upper case.
- i** One of the screws may remain captive in the Bluetooth/camera cable ground loop. If replacing the display, be sure to transfer this screw to the new unit.
- Lift the Bluetooth board/cable retainer assembly out of the upper case.

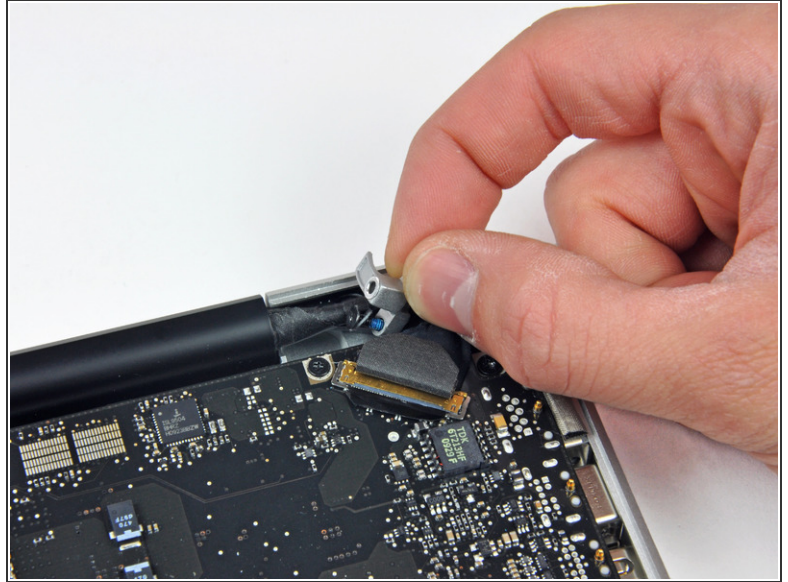
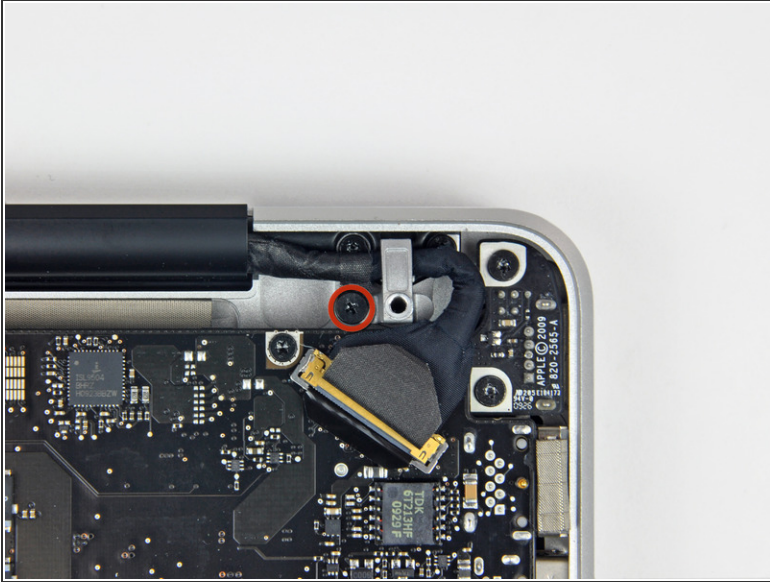
## Step 12



- ⓘ This step is only for glossy display machines. If you have an anti-glare display, skip this step.
- Remove the two 8 mm Phillips screws securing the camera cable retainer to the upper case.
- ⓘ One of the screws may remain captive in the camera cable ground loop. If replacing the display, be sure to transfer this screw to the new unit.
- Lift the camera cable retainer out of the upper case.



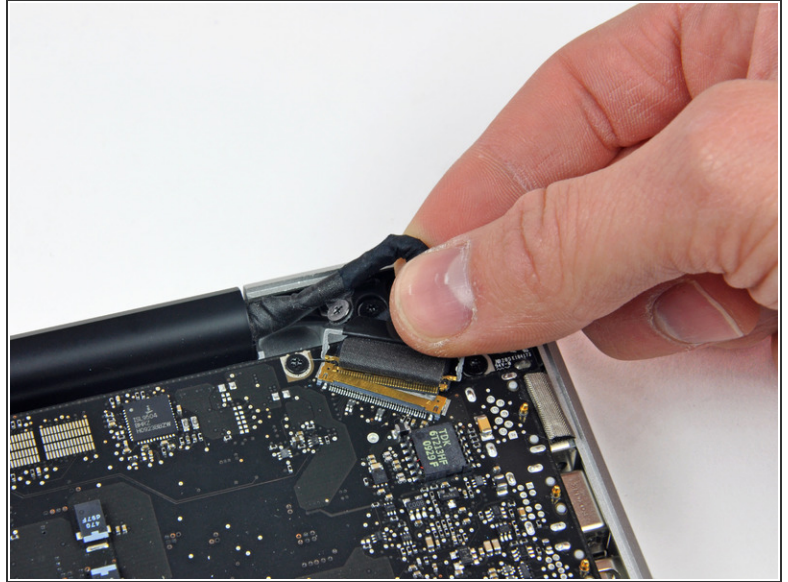
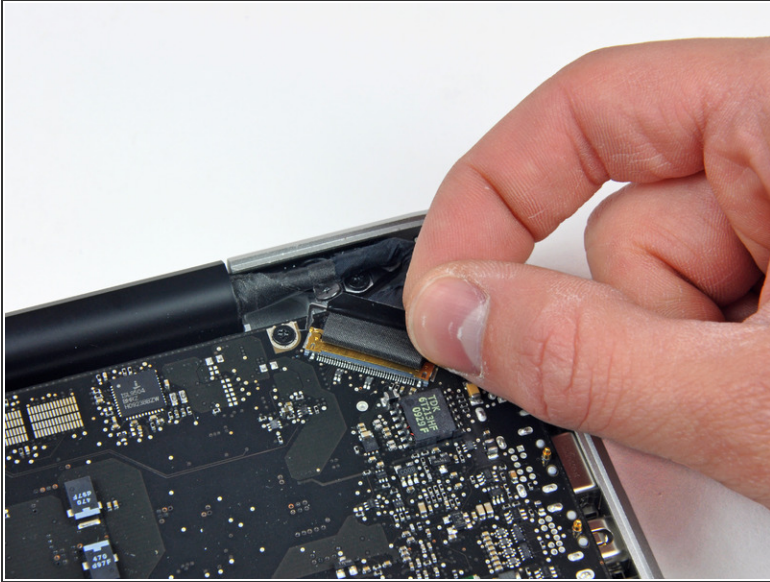
## Step 13



- Remove the single 7 mm Phillips screw securing the display data cable retainer to the upper case.
- ⓘ This screw may remain captive in the display data cable ground loop. If replacing the display, be sure to transfer this screw to the new unit.
- Remove the display data cable retainer from the upper case.

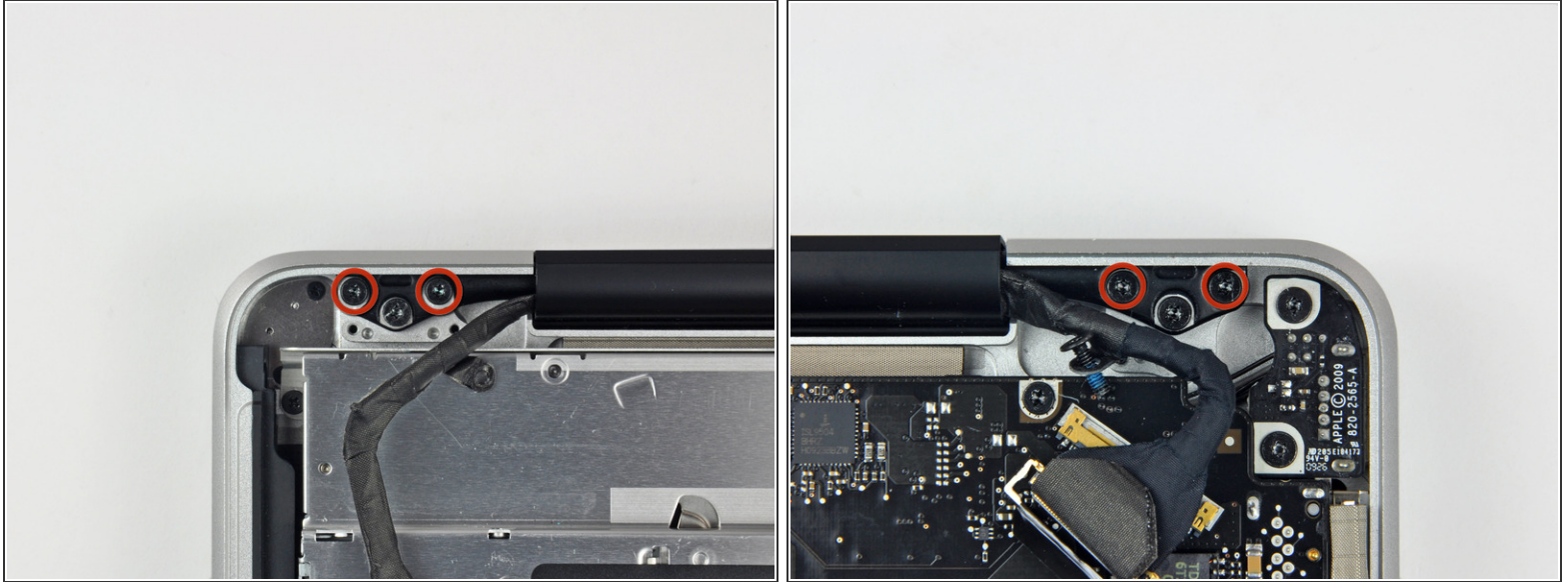


## Step 14



- Grab the plastic pull tab secured to the display data cable lock and rotate it toward the DC-in side of the computer.
  - Pull the display data cable connector straight away from its socket.
- ⚠ Make sure to pull the connector parallel to the face of the logic board, not straight up from its socket.

## Step 15



- Remove the outer two T6 Torx screws securing both display hinges to the upper case (four screws total).

## Step 16



- Open your MacBook so the display is perpendicular to the upper case.
- Place your opened MacBook on a table as pictured.
- While holding the display and upper case together with your left hand, remove the remaining 6.5 mm Torx screw from the lower display bracket.



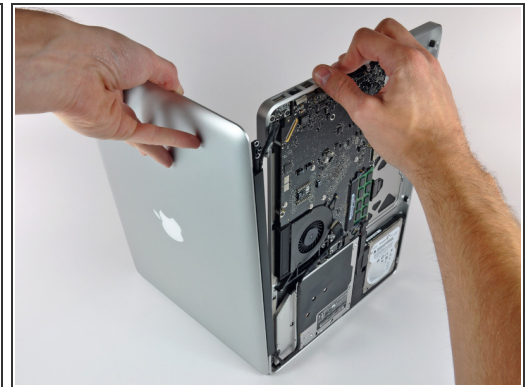
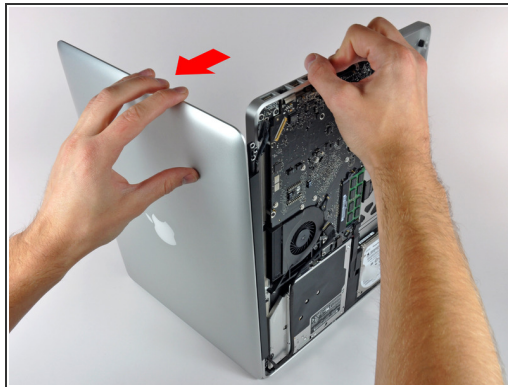
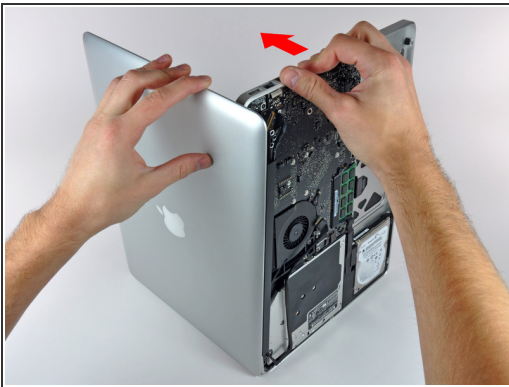
## Step 17



**⚠** Be sure to hold the display and upper case together with your left hand. Failure to do so may cause the freed display/upper case to fall, potentially damaging each component.

- Remove the last remaining 6 mm T6 Torx screw securing the display to the upper case.

## Step 18



- Grab the upper case with your right hand and rotate it slightly toward the top of the display so the upper display bracket clears the edge of the upper case.
- Rotate the display slightly away from the upper case.
- Lift the display up and away from the upper case, minding any brackets or cables that may get caught.

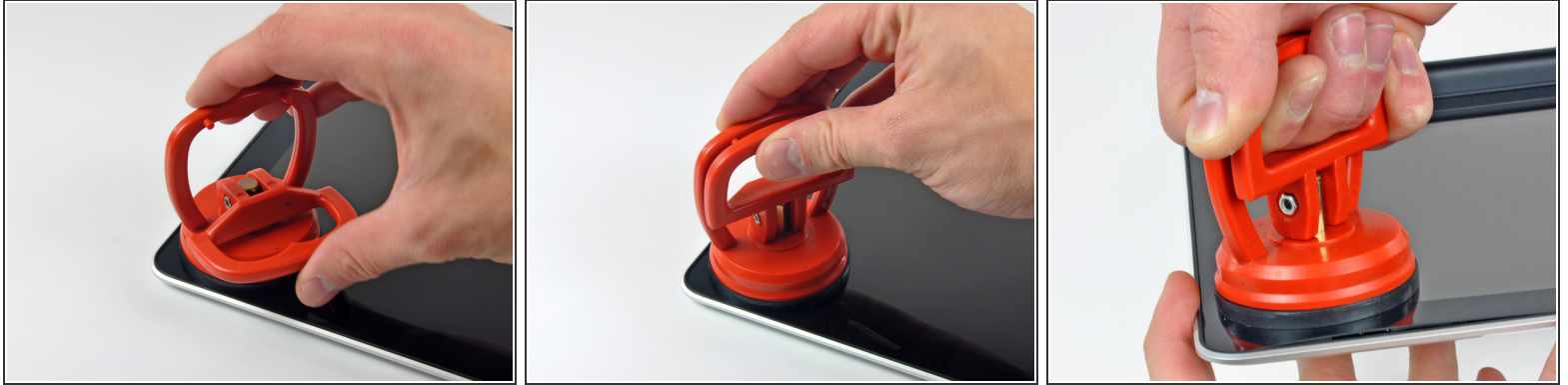
## Step 19 — Front Display Glass



- i** In the following steps, you will use a heat gun to soften the adhesive securing the outer black border around the underside of the front glass panel to the display. The area the adhesive is applied to is shown in red in the second picture.
- Before starting, be sure to clean the display glass with lint-free cloth moistened with a mild solution; it will make the suction cup adhere better, and will make checking for dust on reassembly easier
  - With the heat gun set to low, start by heating the outer black border near the upper right corner of the glass panel.
- !** Always aim the heat gun away from the soft rubber strip around the display glass. Heating the rubber will cause it to melt slightly, turning its finish from matte to glossy. Touching overheated rubber can cause it to permanently deform.
- i** Due to the heat applied, it is normal for a layer of condensation to develop on the inside of the glass panel and/or the outside of the LCD. It can be removed with glass cleaner once the glass is separated from the display.





## Step 20



- With the panel sufficiently heated, fasten a heavy-duty suction cup near the upper right corner of the display glass.

 Don't fasten the suction cup on top of the rubber strip around the edge of the display glass.

-  To attach the [suction cups](#) we sell, first position the suction cup with the movable handle parallel to the face of the glass panel. While lightly holding the suction cup against the glass, raise the movable handle until it is parallel with the other handle.
- Slowly and gently pull the corner of the display glass up off the display assembly.
-  If only the top edge of the glass lifts up (as seen in the third picture), repeat steps one and two until you can lift up the corner of the panel.

## Step 21



- Gently lift the corner of the display glass enough to insert a spudger between it and the display assembly.
- Use the flat end of a spudger to gently pry up the adhesive securing the front glass to the display.
- Pry up the glass panel a few inches away from the upper right corner along the top and right edges of the display.

## Step 22



- Use a heat gun to soften the adhesive under the black strip along the right side of the front glass panel.
  - Attach a suction cup along the right side of the front glass panel.
  - Pull up on the glass panel while you use the flat end of a spudger to separate it from the rest of the display assembly.
  - Continue working along the right edge of the front display glass until it is separated from the display.
- i** It may be helpful to use a guitar pick or another thin plastic object to keep the upper right corner of the front glass panel from sticking back down to the display assembly.

## Step 23



- Use your heat gun to soften the adhesive under the black strip along the top edge of the glass display panel.
- Attach a suction cup near the top edge of the glass display panel and use it to pull the glass panel up off the display.
- Work along the top edge of the glass panel, carefully using the flat end of a spudger to separate the adhesive if necessary.



## Step 24



- Use a heat gun to soften the adhesive under the black strip near the upper left corner of the glass display panel.
  - Attach a suction cup near the upper left corner of the glass display panel.
  - Pull up on the suction cup and use the flat end of a spudger to carefully pry the glass display panel out of the display assembly.
- i** Once the upper left corner has been separated from the display, it may be helpful to use a guitar pick or another thin plastic object to keep the glass from sticking back down to the display assembly.

## Step 25



- Use a heat gun to soften the adhesive under the black strip along the left side of the front glass panel.
- Attach a suction cup along the left side of the front glass panel.
- Pull up on the glass panel while you use the flat end of a spudger to separate it from the rest of the display assembly.
- Continue working along the left edge of the front display glass until it is separated from the display.

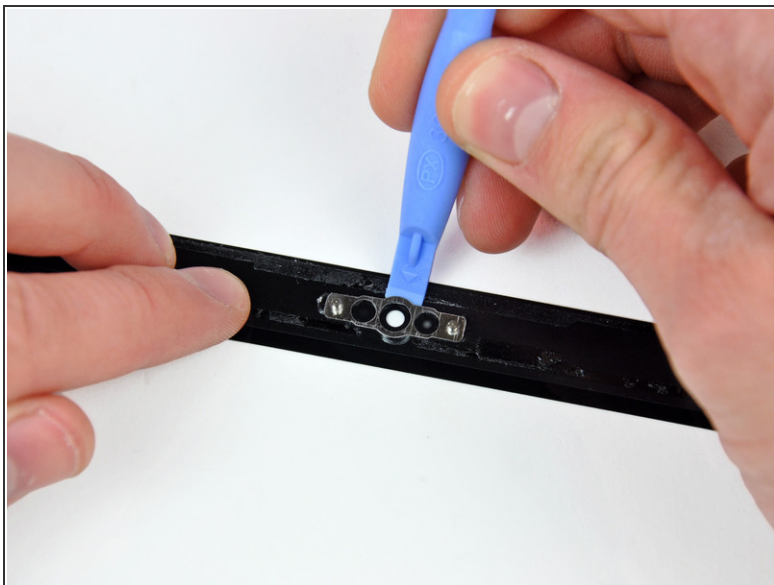
## Step 26



- Now that the top, left, and right edges of the glass are free from the display, slowly lift the top edge of the glass panel and gently rotate it out of the display.
- ⓘ If necessary, use the flat end of a spudger to free the bottom edge of the glass display panel from the display assembly.
- ★ Before reassembling, be sure to clean both the inside of the glass display panel and the LCD as any dust or fingerprints trapped inside will be annoyingly visible when the machine is on.



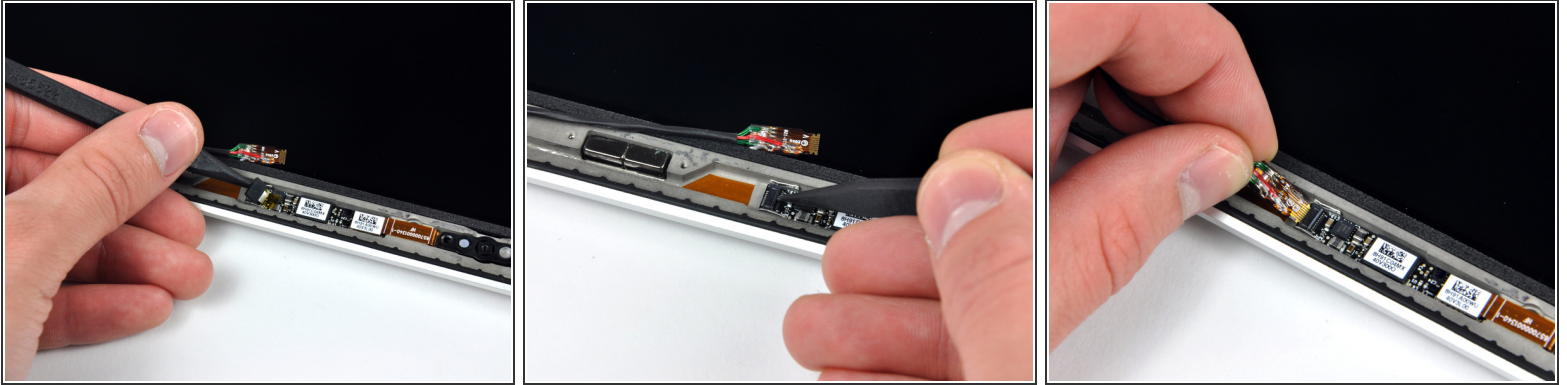
## Step 27





- Insert the edge of a plastic opening tool between the display glass and the camera bracket, and run it around the camera bracket to separate it from the display glass.

☒ Do not forget to stick the camera bracket down to the new front display glass before reassembly.

## Step 28



-  During the glass removal process, the camera cable may stick to the adhesive on the glass panel, disconnecting it from the camera board as the panel is lifted. If your camera cable is still connected to the camera board, skip this step.
- To reconnect the cable, first use the tip of a spudger to remove the piece of foam tape over the camera cable ZIF socket.
  - Use the tip of a spudger to flip up the ZIF cable retainer on the camera cable socket.
  - Insert the camera cable into its socket on the camera board and use the tip of a spudger to snap down the ZIF cable retainer, locking the cable in place.
-  Reapply the piece of tape covering the camera cable socket.

To reassemble your device, follow these instructions in reverse order.

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